Neural Stem Cells in Stroke: Intracerebral Approaches

Journal: Springer; Cell Therapy for Brain Injury

Publication Year: 2015

Authors: Gary Steinberg

PubMed link:

Funding Grants: Embryonic-Derived Neural Stem Cells for Treatment of Motor Sequelae following Sub-cortical Stroke, Paracrine and synaptic mechanisms underlying neural stem cell-mediated stroke recovery

Public Summary:
Stem cell therapy is a promising treatment strategy for stroke that has been shown to improve functional recovery in preclinical stroke models and is currently being investigated in clinical trials. In this chapter, we review the development of intracerebral (IC) transplantation as a strategy for targeted cell delivery to the stroke-injured brain, and discuss the use of neural stem cells (NSCs) as a candidate therapeutic cell type. We explore the different types of NSCs that have been shown to improve stroke outcome, and consider how these cells might act in vivo to alter brain repair and recovery. Finally, we summarize current progress toward clinical translation of IC delivery of NSCs, and discuss remaining challenges for developing this approach as an effective treatment for stroke.

Scientific Abstract: